

### **REMARKS**

Claims 1-5, 7-9, and 12-20 remain pending in this application and claims 21-22 are added. Reconsideration of this application is requested.

### **Aspects of the Present Invention**

In one aspect, the present invention is directed to an imaging module for a still image capturing device such as a digital camera, wherein an electronic imaging sensor device is coupled with an electronic shutter device to provide selectable exposure patterns for image capture. According to another aspect of the invention, each addressable pixel unit of the imaging module includes a first polarizing shutter element of a first polarization orientation, and a second polarizing shutter element of a second polarization orientation orthogonal to the first orientation, such that light from an object being imaged passes through both shutter elements onto a pixel of the imaging sensor, thereby providing a substantially non-polarized image.

### **The 35 U.S.C § 102 Rejection**

The rejection of claims 1, 2, 4, 5, 7-9 and 16-20 under 35 U.S.C. § 102(b) as being anticipated by Bacs et al. (U.S. Patent No. 5,678,089) ("Bacs"), is respectfully traversed.

Bacs discloses an autostereoscopic imaging apparatus. According to Bacs, "a succession of time-spaced images of a scene are recorded by a single imaging device in a manner such that a subsequent display of the images can be perceived as three-dimensional." Col. 5, lines 36-39.

With respect to claim 1, Bacs does not anticipate claim 1 because Bacs does not disclose all of the features of claim 1. For example, at the least, Bacs does not disclose a "plurality of shutter exposure patterns" or a "digital still image capturing device [that] captures only a single image of the object in response to the application of the selected shutter exposure pattern [to the shutter device]," as is recited in claim 1.

Contrary to the present invention as set forth in claim 1, Bacs discloses an imaging device that captures "a succession of time-spaced images of a scene" in response to application of a "parallax scanning pattern". First, the "parallax scanning pattern" disclosed in Bacs is not a shutter exposure pattern. A shutter exposure pattern is an exposure pattern that is used to capture a single image of a scene or object. In contrast, a parallax scanning pattern is a pattern that is used to create a "succession of time-spaced images." Second, it would be impossible for Bacs to achieve the objective of having a two-dimensional image appear to be three-dimensional if Bacs captured only a single image in response to application of the exposure pattern. In other words, Bacs is concerned with making a movie or video such that the movie or video appears 3D. In stark contrast, the invention of claim 1 is directed to capturing only a single image of an object in response to application of a shutter exposure pattern.

In conventional cameras, it is very hard to get a good exposure if part of the scene is very bright and another part is very dark. However, with the invention of claim 1 it is easy to create a well exposed image in such a situation because the invention of claim 1 allows the user to set one exposure time for one group of pixels and another exposure time for a different group of pixels. Thus, the group of pixels that receive the light from the bright part of the scene can be given a relatively short exposure time, whereas the group of pixels that receive the light from the dark area of the scene can be given a relatively longer exposure time. For example, when the user presses the shutter button, one group of pixels may be exposed for 1 second whereas another group may be exposed for only 0.20 seconds. Accordingly, the present invention solves a problem faced by many still image photographers. Bacs does not solve this problem. Bacs discloses a system wherein a user can use a single camera to create a 3D movie or video. The system disclosed in Bacs necessarily captures multiple images per parallax scanning pattern. In contrast, as discussed above, the invention of claim 1 captures only a single image per application of the exposure pattern. Additionally, as discussed above, the "shutter exposure pattern" feature recited in claim 1 does not read on the parallax scanning pattern disclosed in Bacs. In short, Bacs does not anticipate claim 1.

With respect to claim 16, the above remarks for claim 1 are applicable because, like claim 1, claim 16 requires that only a single image be recorded in response to the application of the shutter exposure pattern. Thus, for at least the same reasons give above with respect to claim 1, Bacs does not anticipate claim 16.

With respect to claims 2, 4, 5, 7-9 and 17-20, these claims depend from either claim 1 or claim 16. Therefore, these claims are patentable for at least the same reasons give above.

### **The 35 U.S.C § 103 Rejection**

The rejection of claims 3, 12-15 and 18 under 35 U.S.C. § 103 as being unpatentable over Bacs in view of Kato et al. (U.S. Patent No. 4,154,505) also is respectfully traversed.

With respect to claim 3, neither Bacs nor Kato, considered alone or in combination teach or suggest all of the features of claim 3. For example, at the least, neither Bacs nor Kato teach or suggest:

a shutter device comprising a plurality of individually addressable shutter element pairs, wherein each pair of shutter elements consists of a first shutter element having a first polarization orientation and a second shutter element having a second polarization orientation that is substantially orthogonal to said first polarization orientation

as is recited in claim 3.

As discussed above, Bacs discloses an autostereoscopic imaging apparatus. Nowhere does Bacs teach or suggest a plurality of shutter element pairs, wherein each pair consists of "a first shutter element having a first polarization orientation and a second shutter element having a second polarization orientation that is substantially orthogonal to said first polarization orientation."

Kato discloses a light shuttering device. The light shuttering device includes only a single pair of polarizers. Nowhere does Kato teach or suggest a plurality of shutter element pairs, wherein each pair consists of "a first shutter element having a first

polarization orientation and a second shutter element having a second polarization orientation that is substantially orthogonal to said first polarization orientation.”

Accordingly, neither Bacs nor Kato, considered alone or in combination teach or suggest all of the features of claim 3. Thus, the rejection of claim 3 should be withdrawn.

With respect to claim 12-15, these claims depend from claim 3 and are patentable for at least the reason give above. With respect to claim 18, this claim depends from claim 16 and is patentable at least for the reasons given above with respect to claim 16.


#### **New Claims**

New claims 21-22 are added. Claims 21-22 depend from claim 1 and are, therefore, patentable for at least the same reasons given above with respect to claim 1.

#### **Conclusion**

In view of the foregoing, claims 1-5, 7-9 and 12-22 are submitted to be patentable over the prior art of record, whether considered individually or in combination. Further reconsideration of this application, withdrawal of the outstanding grounds of rejection and the issuance of a Notice of Allowance are earnestly solicited.

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